

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

AXIOM INVESTMENT ADVISORS, LLC, by
and through its Trustee, Gildor Management,
LLC, and AXIOM INVESTMENT
COMPANY, LLC, by and through its Trustee,
Gildor Management, LLC,

Plaintiffs,

- against -

DEUTSCHE BANK AG,

Defendant.

Case No. 15 Civ. 9945 (LGS)

**DECLARATION OF CRAIG S. BEEVERS IN SUPPORT OF
PLAINTIFFS' MOTION FOR CLASS CERTIFICATION**

TABLE OF CONTENTS

I	Introduction (and Scope)	1
II	Qualifications and Compensation	1
III	Analysis	3
IV	Conclusions	5
V	References	6
VI	Appendix 1 : Fields Used	9

I, Craig Beevers, declare and state as follows:

1. I make the following statements on the basis of my own personal knowledge. If called as a witness, I could and would competently testify to the matters stated herein.

I. INTRODUCTION AND SCOPE

2. I am a Consultant at Velador Associates, Ltd.

3. Velador Associates is an expert consultancy firm, specializing in the area of the financial markets. Its consultants have significant experience in all facets of foreign exchange (FX) trading. I have personal knowledge of most non-equity markets, having been a proprietary arbitrage trader, partner in a fund management business and a global co-head of risk management for Nikko Europe PLC. In particular, in this latter role I had cause on many occasions to analyze trading records to reconstruct what had happened following trade disputes or unauthorized trading activity.

4. This Declaration describes and explains our analysis of the trading records provided by Deutsche Bank in this matter.

5. I base my opinions in this matter on my extensive experience in analyzing trading records, and have, where necessary, consulted with my supporting colleagues at Velador. A detailed list of the materials and resources I considered in the preparation of this report is contained in Section V.

II. QUALIFICATIONS AND COMPENSATION

6. I have worked in financial markets for 27 years.

7. In addition to my duties at Velador, I am a consultant to the Financial Markets Standards Board, a financial standards setting body, formed under a mandate from the Bank of England, HM Treasury and the Financial Conduct Authority, and composed of fifty of the world's largest financial institutions, and which publishes Standards and Statements of Good Practice to improve conduct in the European financial markets, though some Standards are adopted globally. I sit on the Rates, Spreads, Conduct and Ethics, Commodities and Financial Technology working groups, which has high frequency trading and last look in particular as one of the topics under study.

8. I am also a member of the Bank of England LIBOR replacement working group, a committee formed to replace to the worlds most prevalent financial benchmark.

9. I also currently serve as a director of SLC Property Ltd, a family business, and of Evolutis Capital Ltd and of MAC Capital Partners Ltd, through which I provide a range of investment advisory and investment principal services to clients and partner organizations, as well as investing on my own account. These companies are owned by Evolutis (Group) Ltd, of which I am a director and which is owned by members of my immediate family.

10. I hold a Masters Degree in Electronic Engineering from Imperial College, London, where I studied specialisms including systems architecture, microprocessor systems, programming and econometrics.

11. Velador Associates is being compensated at my standard hourly rate of £325, and neither my compensation nor the compensation of Velador Associates is contingent on the outcome of this proceeding.

12. My prior US testimony has been in in *In Re: LIBOR Based Financial Instruments Anti Trust Litigation*, Case 1:11-md-02262-NRB. In the UK, I have provided expert opinion in *FM Capital Partners Ltd vs. Frederick Marino* and others, Case No CL-2014-000863 and have testified in *SLC Property Ltd vs. Martine Clarke* in 2016, an employment case which was ultimately settled, and *Nikko Principal Investments Ltd vs. UKI Insurance Ltd* in 2006. During my time at Nikko I was involved in various commercial disputes that did not reach trial, having settled pre-trial or during court mandated Alternative Dispute Resolution (ADR, a form of mediated settlement).

III. ANALYSIS

13. The data produced in this matter shows that Deutsche Bank performed post-receipt price checks in order to determine whether its price moved in or against its interests and then to renege and refuse to complete those trades it determined to be likely unprofitable in that moment. Deutsche Bank's trade data allows for this behavior to be observed. This data includes timestamps

associated with the receipt of trades as well as the time of Deutsche Bank's price checks and whether Deutsche Bank confirmed the trade. A summary of these fields is attached in Appendix 1.

14. Among other things, we examined the timestamps associated with the ABFX data provided by Deutsche Bank in this matter in an effort to understand how the data interacts. Our analysis was of all data from Table FXT-248A where field [REDACTED] = "C", which we believe to identify ABFX data. Our method for understanding the ABFX timestamps involves:

15. Identifying clients who supply a [REDACTED] that appears to be consistent and properly synchronized with Deutsche Bank's clocks.

16. We then examine the separation between that client supplied timestamp and [REDACTED] and [REDACTED]

17. We inspect how these fields change when DTA is enabled for that client, e.g. observing that the [REDACTED] and [REDACTED] become separated by the DTA delay, or that the [REDACTED] and client time become separated by the DTA delay.

18. We do all the above for a selection of clients on all different execution venues, in different years.

19. Based on this review, and examination of the other disclosed material listed below, we came to the following understanding of the fields contained within the FXT-248 dataset:

20. [REDACTED] [REDACTED].

21. [REDACTED] (DB-Axiom_00554973).

22. [REDACTED] (DB-Axiom_00554973). [REDACTED]

[REDACTED]

23. [REDACTED] (DB-Axiom_00546778-81). The meaning of this field is different for different subsets of the data - explained in detail in the section below.

24. [REDACTED] (DB-Axiom_00546778-81). The meaning of this field is different for different subsets of the data - explained in detail in the section below.

25. [REDACTED] (DB-Axiom 00546778-81 at 80). [REDACTED] (DB-Axiom_01620491-93). This field appears to be calculated at some point during trade acceptance, using a history of quotes that were sent to the client and the quote ID that the client is attempting to trade on. If the quote the client is attempting to trade on has not yet been replaced by a new one, then this is set to "0", "null", or "-1", "-2" or "-3". If the quote the client is attempting to trade on has been replaced, then this is set to the first timestamp when a replacement quote was sent to the client. If the quote is replaced multiple times, the field still represents the first replacement.

26. We have split the data into three categories.

27. Trade Category 1 - Identified by [REDACTED] =empty or 1 AND [REDACTED] is one of [REDACTED]", [REDACTED]" or "[REDACTED]". In this dataset, [REDACTED] is the time of receipt, [REDACTED] is after the DTA delay, [REDACTED] is the time the client quoted price was first replaced.

28. Trade Category 2 - Identified by: [REDACTED] =empty or 1 AND [REDACTED] is NOT one of "[REDACTED]", [REDACTED]" or "[REDACTED]".

29. In this dataset, [REDACTED] is after the DTA period, [REDACTED] is the same as or very shortly after [REDACTED], time of receipt is [REDACTED] - DTA delay, TTL_STARTED is the time the client quoted price was first replaced.

30. Trade Category 3 - Identified by [REDACTED] =2 or 5. We notice [REDACTED] is separated from [REDACTED] by the DTA delay [REDACTED] appears to be the time the trade instruction was received. [REDACTED] is the time at the end of the DTA delay. We think that two fields have been swapped in the data - the [REDACTED] and [REDACTED].

IV. CONCLUSION

31. By analyzing the data disclosed by Defendant Deutsche Bank, we were able to identify the several different formats in which Deutsche Bank recorded the behaviors complained of, and identified many instances of price manipulation in each format. We were able to separate the trades and trading records into several Trade Categories according to format.

32. For each Trade Category we determine an implied time of receipt of the trade, an implied time of trade acceptance or rejection, and either a time of first replacement of the client quote or an indication that a replacement was made during a delayed trade acceptance period.

33. Using [REDACTED] in association with the other timestamps contained in Deutsche Bank ARM data allows us to calculate whether a price associated with a trade request had been superseded or withdrawn prior to its receipt by Deutsche Bank.

34. In addition, each Trade Category contains enough information to determine the change in price in favor of or against the client during the trade acceptance period, and this allows a damage estimate to be made on a per trade basis.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.



Craig S. Beevers

Executed on Monday, January 15, 2018 in London, United Kingdom.

V. REFERENCES

- FXT-248A, a database table labelled [REDACTED]", for all dates
- FXT-246A and FXT-246B, a database table labelled [REDACTED]", for all dates
- DB-Axiom_00554973
- DB-Axiom_01620491-93
- DB-Axiom 00546778-81
- Client PL & Volume Transitions DB-Axiom_00596938
- Client PL & Volume Transitions DB-Axiom_00596941
- Client PL & Volume Transitions DB-Axiom_00596939
- Client PL & Volume Transitions DB-Axiom_00596937
- Client PL & Volume Transitions DB-Axiom_00596936
- Client PL & Volume Transitions DB-Axiom_00596935 -
- Client PL & Volume Transitions DB-Axiom_00596940
- Excel Spreadsheet DB-Axiom_00949755
- Excel Spreadsheet DB-Axiom_02382827
- Excel Spreadsheet DB-Axiom_00378306
- Excel Spreadsheet DB-Axiom_00949755
- Excel Spreadsheet DB-Axiom_01616221
- Excel Spreadsheet: Client List DB-Axiom_01616221
- Excel Spreadsheet: DTA Client Analysis DB-Axiom_01726367
- Excel Spreadsheet: Field Matrix
- Conversation Transcript between Benedict Carter and Pavel Zavodacv DB-Axiom_02385057 - DB-Axiom_02385058
- Customer DTA Settings List DB-Axiom_01694699 -DB-Axiom_01694710
- Customer DTA Settings List DB-Axiom_01694361 -DB-Axiom_01694698
- Deposition of Aleksandar Ivic 10/27/2017
- Deposition of Aleksandar Ivic, Exh. #38: Deutsche Bank AutobahnFX FIX
- API Integration Guide,DB-Axiom_01266100 -DB-Axiom_01266126
- Deposition of Aleksandar Ivic, Exh. #39: Email from Aleks Ivic to Benedict Carter, Re: [REDACTED]
[REDACTED] Rejects DB-Axiom_00910034 - DB-Axiom_00910036
- Deposition of Aleksandar Ivic, Exh. #40: Deutsche Bank AutobahnFX FIX API Integration Guide, July 2010 DB-Axiom_01279877 -DB-Axiom_01279905
- Deposition of Aleksandar Ivic, Exh. #41: Deutsche Bank AutobahnFX FIX API Integration Guide, September 2014 DB-Axiom_01657651 -DB-Axiom_01657681
- Deposition of Aleksandar Ivic, Exh. #42: Email from Aleks Ivic to Erik Depol, Re: [REDACTED] DB-Axiom_01428938 -DB-Axiom_01428942
- Deposition of Aleksandar Ivic, Exh. #43: Email from Aleks Ivic to Erik Depol, Re: [REDACTED] DB-Axiom_01429008 - DB-Axiom_01429014
- Deposition of Aleksandar Ivic, Exh. #44: Email from Maria Prata to Aleks Ivic, Re: [REDACTED] DB-Axiom_01428989 - DB-Axiom_01428993
- Deposition of Benedict Carter 9/20/2017
- Deposition of Benedict Carter, Exh. #15: Excel Spreadsheet
- Deposition of Benedict Carter, Exh. #15A: Excel Spreadsheet
- Deposition of Benedict Carter, Exh. #15B: Excel Spreadsheet
- Deposition of Benedict Carter, Exh. #15C: Excel Spreadsheet
- Deposition of Benedict Carter, Exh. #15D: Excel Spreadsheet
- Deposition of Benedict Carter, Exh. #15E: Excel Spreadsheet
- Deutsche Bank AG's Answer and Affirmative Defenses

- Deutsche Bank AutobahnFX FIX API Integration Guide, November 2009 DB-Axiom_01266100 - DB-Axiom_01266126
- Email from Aleks Ivic to Benedict Carter, Re: [REDACTED] Rejects DB-Axiom_00910034 - DB-Axiom_00910036
- Email from Alexandre Cothureau to Alexander Ashitkin, Re: Mis Db Sent Rate Investigation Questions DB-Axiom_01620491 - DB-Axiom_01620493
- Email from Benedict Carter to David Leigh, Re: [REDACTED] Rapid 8290 DB-Axiom_01159177 - DB-Axiom_01159179
- Email from Benedict Carter to Ian O-Flaherty et al., Re: Delayed Trade Acceptance Recommendations DB-Axiom_01726366 - DB-Axiom_01726366
- Email from Benedict Carter to Ian O-Flaherty, Re: Performance before and after Tokyo Server for [REDACTED] Sec DB-Axiom_00596905 - DB-Axiom_00596934
- Email from Chad Berner to Lee Merchant et al., Re: Explanation – ARM Simulate TA DB-Axiom_01616533 - DB-Axiom_01616534
- Email from Kevin Rodgers to Robert Mandeno, Re: eCS Meeting DB-Axiom_00454449 -DB-Axiom_00454451
- Email from Manjunatha Holla to Aman-A Jain, Re: [REDACTED] – Latency and Hot Ratios DB-Axiom_00949746 - DB-Axiom_00949749
- Email from Michael Moy to David Leigh and Ilya-P Trubnikov, Re: Trade Requests Using RHS Dealt CCY off a Base CCY Market Data Subscription Classified as a Client Rate DB-Axiom_02393583 -DB-Axiom_02393582
- Email from Pavel Zavodaev to Benedict Carter and Vladimir Legkunets, Re: DTA and TA, mis_trade_requests DB-Axiom_00554973 - DB-Axiom_00554977
- Email from Roel Oomen to Hendrik Muer, Re: Why is RAPID losing money?DB-Axiom_01567651 -DB-Axiom_01567668
- Email from Sergey Kubyshin to Benedict Carter, Re: Trade Acceptance DB-Axiom_00546778 - DB-Axiom_00546781
- Email from Viacheslav Tsarev to Benedict Carter, Re: Conversation #73798352 DB-Axiom_00556134 - DB-Axiom_00556137
- Fix Trade Acceptance DB-Axiom_02422856 - DB-Axiom_02422858



- [REDACTED]
 - Global Finance & Foreign Exchange - abFX2 Use Cases / Functional Specification Document DB-Axiom_01750039 - DB-Axiom_01750071
 - Global Finance & Foreign Exchange - abFX2 Use Cases / Functional Specification Document DB-Axiom_01752889 - DB-Axiom_01752924
 - Nature of the Action 12/21/2015
 - Project Tasks 2008 Q3 - Api Quote Time Slippage Speclet DB-Axiom_02424845 - DB-Axiom_02424846
 - RAPID Reject Messages DB-Axiom_02419182
 - RapidRapid Trade Acceptance - Trade Recovery Logic DB-Axiom_02417857 - DB-Axiom_02417859
 - Required RAPID Functionality: Trade Acceptance DB-Axiom_01024910 - DB-Axiom_01024926
 - Spot Trade Acceptance Manual Test DB-Axiom_02419289 - DB-Axiom_02419291
 - Spot Trade Acceptance Test DB-Axiom_02419353 - DB-Axiom_02419354
 - Stipulation and Order of Confidentiality 5/4/2016
 - Trade Acceptance Functional Specification DB-Axiom_02419252 - DB-Axiom_02419253
 - Trade Acceptance Overview DB-Axiom_01354766 - DB-Axiom_01354773

VI. APPENDIX 1: FIELDS USED

DATA FIELD	TYPE	EXAMPLE RECORD



